

CLAIMS

1. A packet routing apparatus comprising:

5 a receiver that receives a radio signal including packets;

a detector that detects disconnection of a route for packet transfer; and

10 a transmitter that, when the route for packet transfer is disconnected, transmits by broadcast a route search request to a destination of the packets and reports the disconnection of the route for packet transfer to a transmission source of the packets.

2. The packet routing apparatus according to claim 1,
15 further comprising:

a controller that determines content of a received signal; and

a route search packet processor that searches for a transfer route of packets, wherein:

20 the receiver receives a radio signal including a route search request to a destination of the packets relayed by an apparatus that relays the packets, or a request for route reconstruction transmitted from a transmission source of the packets due to disconnection
25 of the route for packet transfer;

the controller distinguishes between the route search request to the destination of the packets relayed

by the apparatus that relays the packets and the request for route reconstruction transmitted from the transmission source of the packets due to disconnection of the route for packet transfer; and

5 the route search packet processor searches for a transfer route of packets when receiving the route search request to the destination of the packets relayed by the apparatus that relays the packets, and searches for a route of the packets to reconstruct when receiving the
10 request for route reconstruction transmitted from the transmission source of the packets due to disconnection of the route for packet transfer.

3. A packet routing apparatus comprising:

15 a receiver that receives a radio signal including packets;

 a detector that detects disconnection of a route for packet transfer; and

 a transmitter that, when the route for packet
20 transfer is disconnected, adjusts content of the search request so that the request looks like being made by the transmission source of the packets and transmits by broadcast a route search request to a destination of the packets.

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4. A packet routing method in a system where packets are transmitted to a wireless terminal apparatus as a

destination via a plurality of wireless terminal apparatuses, wherein wireless terminal apparatuses relaying the packets monitor route disconnection, a wireless terminal apparatus detecting route
5 disconnection transmits a route search packet to the wireless terminal apparatus as the destination of the packets and reports the route disconnection to a wireless terminal apparatus as a transmission source, wireless terminal apparatuses relaying the packets reconstruct
10 a route for packet transmission according to the route search packet, and the wireless terminal apparatus as the transmission source reconstructs the route when receiving information of the route disconnection.

15 5. A packet routing method in a system where packets are transmitted to a wireless terminal apparatus as a destination via a plurality of wireless terminal apparatuses, wherein wireless terminal apparatuses relaying the packets monitor route disconnection, a
20 wireless terminal apparatus detecting route disconnection adjusts content of a route search request to the destination of the packets so that the search request looks like being made by the transmission source of the packets and transmits a route search packet to the wireless
25 terminal apparatus as the destination of the packets, the wireless terminal apparatus as the destination receiving the route search packet transmits a response

to the wireless terminal apparatus detecting the route disconnection, and a route for packet transfer is thereby recovered.